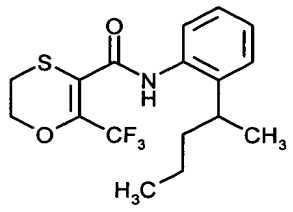
REMARKS

In view of the summary of the restriction requirement given in the Office Action at page 2, Applicants have canceled Claims 27 and 32. However, Applicants again reserve the right to file one of more divisional applications directed to all non-elected subject matter.

Species Election

In response to a previous restriction requirement (as discussed at page 3 of the Office Action), Applicants elected the species represented by Applicants' compound of Example 39 having the formula



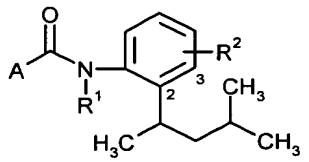
The Office Action at page 3 indicates that the elected species is unpatentable over the prior art and that other subject matter within the claims has thus not been examined, while at the same time acknowledging that allowance of a generic claim would entitle Applicants to consideration of additional species. In finding the elected species unpatentable, the Office Action discounted the test results provided in a Declaration of Dr. Ulrike Wachendorff-Neumann because (i) the comparison was carried out using the non-elected compound of Example 102 instead of the structurally related elected compound of Example 39, (ii) the teachings of a cited paper by Hahn et al (discussed below) were said to suggest alkyl substitution generally, and (iii) the test results were said not to show unexpected results.

Although Applicants will address the sufficiency of their data in more detail below with respect to the obviousness rejection based on the Hahn et al paper, Applicants at this time point to two new Declarations under 37 C.F.R. 1.132, one a second Declaration of Dr. Wachendorff-Neumann and the other a new Declaration of Dr. Arnd Voerste, showing test results for the elected species represented by the compound of Example 39. As discussed below, these robust data are sufficient to overcome any inference of obviousness.

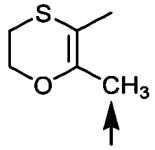
Double Patenting Rejection

Claims 19-22 and 28 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 11-14 and 17 of copending Application No. 10/576,153. Applicants respectfully traverse.

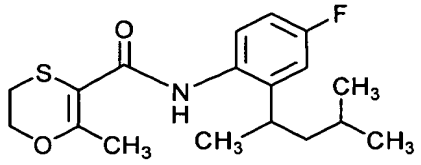
As pointed out in the Office Action at pages 5-6, the copending '153 application discloses compounds of the formula



in which R^1 can be hydrogen or a host of possible substituents; R^2 can be hydrogen, fluorine, chlorine, methyl or trifluoromethyl; and A can be any of 14 ring systems, one of which can be represented by the formula



in which (as shown by the arrow) the oxathiin ring bears a methyl substituent instead of a trifluoromethyl group. Among the many possible compounds of this type can be found a compound of Example 20 having the formula



again where the oxathiin ring bears a methyl substituent.

Although Applicants believe that that current invention is patentably distinct from the subject matter of the copending '153 application, they would be willing to submit an appropriate terminal disclaimer if their current claims are otherwise deemed allowable.

Rejection under 35 U.S.C. 112

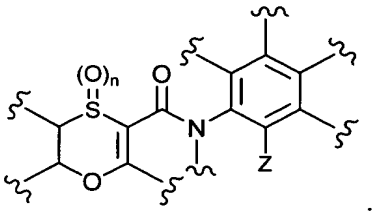
Claims 19-22 and 28 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Applicants respectfully traverse.

In support of the rejection, the Office Action provides an extensive discussion about the written description requirement. Applicants, however, respectfully submit that the Office Action at pages 8-9 has too narrowly viewed Applicants' supporting disclosure only in terms of "[t]he compounds reduced to practice." The Board of Appeals in *Staehelin v. Secher*, 24 U.S.P.Q.2d 1513 (B.P.A.I. 1992), presented a thorough explanation of both the enablement and the written description requirements of 35 U.S.C. 112. With respect to enablement, the Board explained that "the law does not require a specification to be a blueprint" because requiring the specification to provide every minute detail "would turn [patent applications] into production specifications, which they were never intended to be." 24 U.S.P.Q.2d at 1516. The Board reaffirmed the well-established principle that it is only undue experimentation by one skilled in the art -- not the need for some experimentation -- that is contrary to the enablement requirement. E.g., 24 U.S.P.Q.2d at 1517, 1518. With respect to the written description requirement, the Board noted that this requirement is intended to ensure that applicants had possession of a claimed invention as of the filing date and reaffirmed the well-established principle that the written description requirement is satisfied if the application reasonably conveys this fact to those skilled in the art. E.g., 24 U.S.P.Q.2d at 1519. See also *In re Johnson and Farnham*, 194 U.S.P.Q. 187, 195 (C.C.P.A. 1977) (discussed above) and *In re Moore and Janoski*, 169 U.S.P.Q. at 239. Other decisions – including those cited in the Office Action – are fully consistent with these principles. Applicants submit that their specification fully conveys to those skilled in the art what was invented without the need for undue confirmatory experimentation and thus respectfully submit that their claims satisfy the requirements of Section 112.

The Office Action minimizes the scope of Applicants' disclosure by viewing the individual substituents in isolation. However, it is not just the number of individual substituents that were used – and Applicants used many – but the permutations and combinations of such substituents that add richness to Applicants' disclosure. Applicants' examples disclose 103 specific compounds, of which 46 are within the scope of the invention as now claimed. In addition, Applicants' use examples provide test data in standard test systems for seven representative compounds, all of which exhibited excellent biological efficacy, often in more than one test. Applicants have thus shown how to prepare the compounds within their claims and have reported strong biological efficacy for all of the compounds that were tested. Applicants here

have demonstrated substantially improved and unexpected results. Applicants – and those of ordinary skill in the art reading their disclosure – would have a reasonable expectation that all of the claimed compounds not only could be made but also would exhibit biological activity.

Applicants note by way of further comment that the Office Action at page 9 states that they have not shown what structural elements are essential for the activity of the claimed compounds. Applicants, although they find no support in the cited case law for the conclusion that they must provide such a detailed roadmap (and call attention to the *Staehelin v. Secher* discussed above), have nevertheless provided all the details needed to show those skilled in the art what they have invented. First, Applicants' disclosure clearly describes compounds having the following core structural features



and further teaches that group Z must be an optionally substituted hydrocarbon group having very specific structural characteristics (that is, cycloalkyl or bicycloalkyl groups, specifically defined alkyl groups, or alkenyl or alkynyl groups). The specific limitation of unsubstituted alkyl groups having at least five carbon atoms as set forth for Z^3 is supported in the examples as fully discussed at pages 18-19 of Applicants' previous Amendment dated February 20, 2008. In view of the diverse array of substituents Applicants have used and the excellent biological activity for all of the compounds tested, Applicants again submit that those skilled in the art would readily understand the nature of their invention.

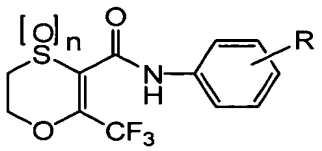
Applicants therefore submit that they have fully satisfied the written description requirement of 35 U.S.C. 112.

Rejection under 35 U.S.C. 103

Claims 19-22, 28, and 33 stand rejected under 35 U.S.C. 103(a) as being anticipated by the Korean language paper by Hahn et al, *Han'guk Nonghwa Kakhoechi* (apparently translated as *J. Korean Soc. Agric. Chem. Biotechol.*), 44 (3), 191-196 (2001). Applicants again point out that they do not have an English translation and thus have based their arguments on the English language abstract

(last page) and the formulas disclosed in the article and abstract, as well as the summary provided in the Office Action at pages 10-11. Applicants respectfully traverse.

As fully discussed in Applicants' previous Amendment dated February 20, 2008, the Hahn et al paper discloses fungicidal dihydro-1,4-oxathiins of the formula



in which **n** is 0, 1, or 2 and **R** is one (and sometimes two) of a relatively narrowly defined group of substituents, including hydrogen, methyl, trifluoromethyl, ethyl, isopropyl, methoxy, isopropyloxy, methylthio, fluoro, chloro, bromo, nitro, and cyano. See pages 194-195. The Hahn et al paper describes fungicidal activity for some of the disclosed compounds (see page 196) and indicates a distinct preference for compounds in which group R is a meta-substituted isopropoxy or isopropyl substituent (see English abstract, with apparent reference to compounds 21 and 40).

Applicants, however, maintain that the Hahn et al paper does not suggest the compounds of their claimed invention.

First, the Hahn et al paper does not disclose or suggest compounds corresponding to those of Applicants' invention in which Z is Z^2 or Z^4. That is, the reference does not teach or even remotely suggest that its group R could be a cycloalkyl or bicycloalkyl group as specified for Applicants' group Z^2 or an alkenyl or alkynyl group as specified for Applicants' group Z^4. Furthermore, the reference does not suggest compounds in which its group R could be part of a fused-on ring structure analogous to those of Applicants' invention in which Z and R^4 together form a 5- or 6-membered carbocyclic or heterocyclic ring. Hahn et al clearly does not render obvious embodiments of their claimed invention having these features.

Second, Applicants maintain that the Hahn et al paper does not suggest compounds corresponding to those of Applicants' invention in which Z is Z^3. That is, even when Applicants' groups R^1, R^2, R^3, or R^4 are hydrogen, fluorine, chlorine, methyl, isopropyl, or methylthio as disclosed in the reference, nothing in the Hahn et al paper discloses or suggests compounds in which its group R could be an unsubstituted alkyl group having at least five carbon atoms or other alkyl groups substituted by at least one chlorine or cycloalkyl.

Although unsupported arguments or conclusory statements are generally not considered sufficient to establish overcome an assertion of obviousness, it is well established that "when an applicant demonstrates substantially improved results . . . and states that the results were unexpected, this should suffice to establish unexpected results in the absence of evidence to the contrary." *In re Soni*, 54 F.3d 746, 751, 34 U.S.P.Q.2d 1684, 1688 (Fed. Cir. 1995) (emphasis added). Here, Applicants have provided such objective evidence, whereas the Office Action provides no contrary data at all.

In support of their position, Applicants previously submitted a Declaration of Dr. Ulrike Wachendorff-Neumann showing dramatic superiority in two test systems of a compound of Example 102 according to their invention as broadly claimed in which the phenyl moiety is substituted with a five-carbon pentyl group (more specifically, a 3-methylbutyl group) when compared to a corresponding compound according to the reference in which the phenyl moiety is substituted with a three-carbon isopropyl group. However, as discussed above, the Office Action discounted these test results because (i) the comparison was not carried out using the non-elected compound of Example 102 instead of the elected species represented by the compound of Example 39, (ii) the teachings of the Hahn et al paper were said to suggest alkyl substitution generally, and (iii) the test results in any case were said not to show unexpected results. To address these supposed deficiencies, Applicants now provide additional data in a second Declaration of Dr. Wachendorff-Neumann comparing Applicants' compound of Example 39 (which bears a five-carbon atom alkyl side chain) with compound 53 of the reference (which bears a three-carbon isopropyl side chain) and in a new Declaration of Dr. Arnd Voerste comparing Applicants' compound of Example 39 with compound 53 of the reference and with another known compound having a three-carbon n-propyl side chain that was not disclosed in the reference. Both comparison compounds bear alkyl substituents having fewer carbon atoms than the minimum number specified by Applicants for unsubstituted alkyl groups.

The second Declaration of Dr. Wachendorff-Neumann provides tests results showing that comparison compound 53 of the reference is almost completely ineffective against *Uromyces appendiculatus* (i.e., an efficacy of only 10% at the tested application rate), whereas the compound of Example 39 according to their invention exhibits a very high efficacy of 95% at the same application rate. The

Declaration of Dr. Voerste similarly provides tests results showing that both comparison compounds were completely ineffective against *Sphaerotheca fuliginea* and *Alternaria solani* at the tested rate, whereas the compound of Example 39 according to their invention exhibited very high activities of 94% against *Sphaerotheca fuliginea* and 95% against *Alternaria solani*. Even if some level of activity might have been expected for their compound of Example 39, Applicants submit that those skilled in the art would not have expected such small changes in chemical structure to give rise to such dramatically enhanced effectiveness.

In view of the similarly enhanced effectiveness of their previously tested compound of Example 102 (as shown in the previously submitted first Declaration of Dr. Wachendorff-Neumann) and in view of the excellent non-comparative test results provided in their application, Applicants submit that their showings are sufficient to distinguish their invention as broadly claimed from the teachings of the reference.

Applicants therefore again respectfully submit that their claimed invention is not rendered obvious by the Hahn et al paper.

In view of the preceding amendments and remarks, allowance of the claims is respectfully requested.

Respectfully submitted,

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